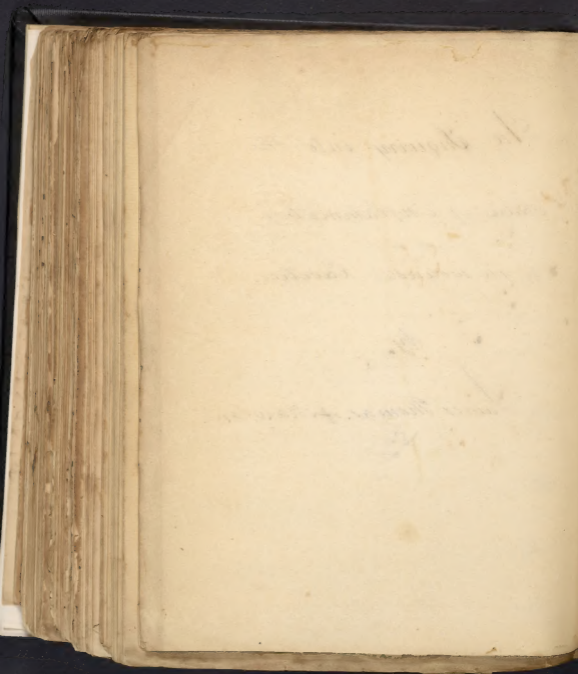


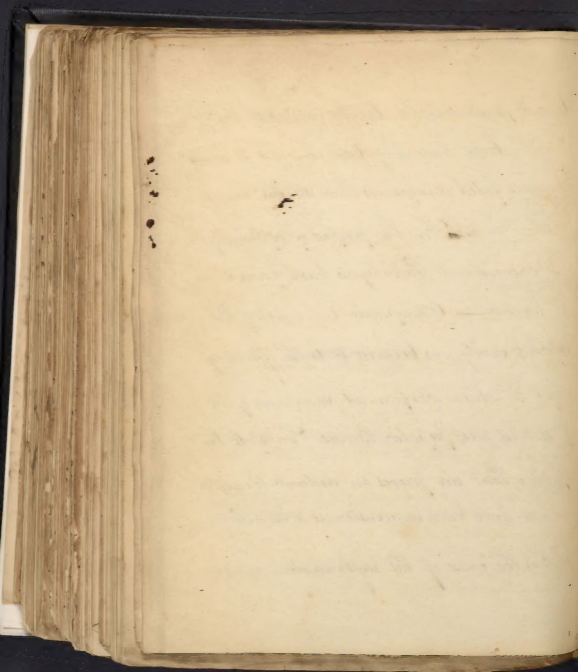
An Inquiry into the
Cause of Inflammation
in wounded Cavities.

by

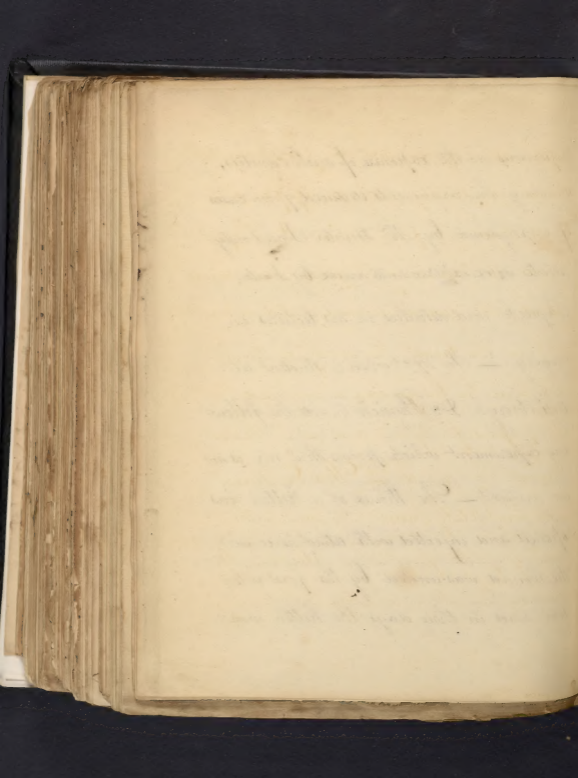
James Thomas. of Maryland.



Wounds penetrating the larger cavities of the human body have long been observed to occasion more fatal consequences than similar wounds in other parts. For the purpose of explaining this circumstance Pathologists have formed many theories. — Atmospheric air entering the exposed cavity was believed to be the offending cause on which was founded perhaps one of the first and most popular theories. To refute the opinion that air proves an irritant to cavities which have been unaccustomed to its action and is the cause of the inflammation which

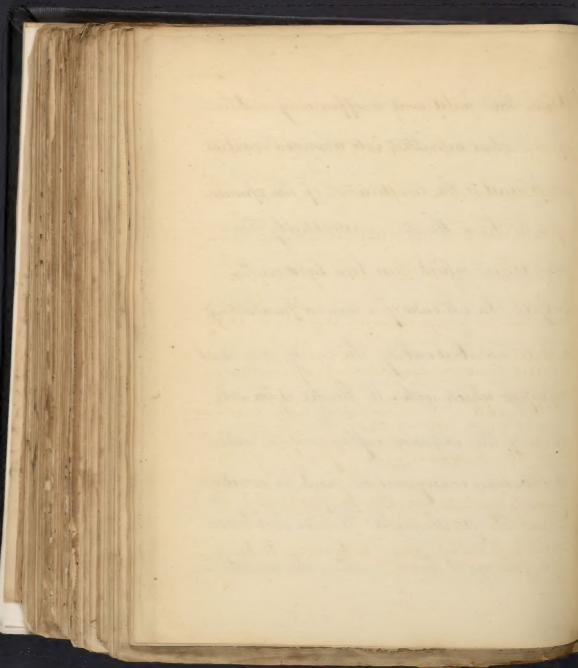


supervenes on the exposure of such cavities,
omitting the arguments deduced from cases
of emphysema by Mr. Hunter I need only
relate some experiments made by Doctor
Physick and detailed in his lectures on
surgery. — In 1791 when a student at
Edinburgh Dr. Physick made the follow-
ing experiment which proves that air is not
an irritant — The thorax of a kitten was
opened and injected with atmospheric air;
the wound was united by the first inten-
tion and in three days the kitten was



killed upon examination the two sides of the
thorax were totally and equally free from
all vestiges of inflammation. Dr. Physick
relates also the case of an officer who having
entered into a quarrel received a stab with a
dunk in the breast the cavity of the tho-
rax and the lungs were so wounded that
air passed freely into and out of the chest
through the wound. — This Gentleman
was completely cured in a week without
one symptom of inflamed pleura. Be-
lieving the above cases sufficient to estab-
lish

Altho the mild and unoffending nature
of air when admitted into wounded cavities
we proceed to the consideration of the opinion
of Mr John Hunter undoubtedly the
most correct which has been held on the
subject. In all cases of a wound penetrating
a circumscribed cavity the cavity is rendered
imperfect which with Mr Hunter is the sole
cause of the extensive inflammation which
is sometimes consequent on such an accident.
That the position Mr Hunter has taken
is a just one I think common observation



alone would testify. For in all cases where a cavity is exposed and continues to be exposed a considerable time we find that inflammation never fails to make its appearance, on the other hand if it be united by the first intention no inconvenience is further experienced and no symptom of inflammation is observable. If immediately after a wound is made into a cavity any portion of the contents of the cavity be protruded in such a manner that adhesion takes place



between the protruded part and the edges of
the wound the cavity which by such adhesion
is rendered imperfect loses all disposi-
tion to take on an inflammatory action.

An ingenious attempt has been made by
Dr. Cooke now of Baltimore in an inau-
gural dissertation published in the Year
1804 to overthrow the opinion of Al^d

Boerhaave by supposing that a diminution
of temperature would account for all the
phenomena which occur in wounded ca-
vities but in no one instance has the



I also proved that a diminution of
temperature actually takes place.

From some experiments made by Mr. Hunter
(and altho' he had a different object in view
they answer my purpose) I think I am war-
ranted in concluding that a diminution
of temperature does not take place. — one
of the experiments alluded to I shall
take the liberty of relating. — An incision
was made into the thorax of a dog a
thermometer was pushed down so as to come



in contact or nearly so with the diaphragm
the degree of heat was one hundred and in
the wound was not allowed to heal by
the first intention the day following
the thermometer was again introduced
the degree of heat appeared exactly the
same. We learn from the observations
of Mr. Hunter that the internal coats
of veins are liable to an extensive and
dangerous inflammation when punctured
and union by the first intention does not



take place. — here undoubtedly Dr. Geckes
theory cannot hold good — no air is admitted
into the cavity consequently no diminution
of temperature is produced — if we by the
application of a compress effect an adhe-
sion between the sides of the vein so as to
render the cavity perfect a check is instantly
made to the progress of the inflammation
which certainly tends very much to the
support of Mr. Hunters opinion. — We
well know that the temperature of a



limb may be diminished almost to freezing
without producing inflammation, but
if one of the joints be wounded and the
edges of the wound kept from uniting
the phenomena of inflamed cavities are
occasioned. What one reason have we for
supposing that air of the temperature of 70°
or 80° will excite by its coldness inflammation
in the thorax? In the warmest as in the
coldest seasons, the phenomena of infla-
mmation are the same and the only

circumstance necessary to excite it, is the
imperfection of the cavity.

